

Weather Forecast Office

Pendleton, OR

Saturday, September 16

# **Drought Summary / Water Supply Outlook**

## **Saturday, September 16**

### **NWS Pendleton, OR**

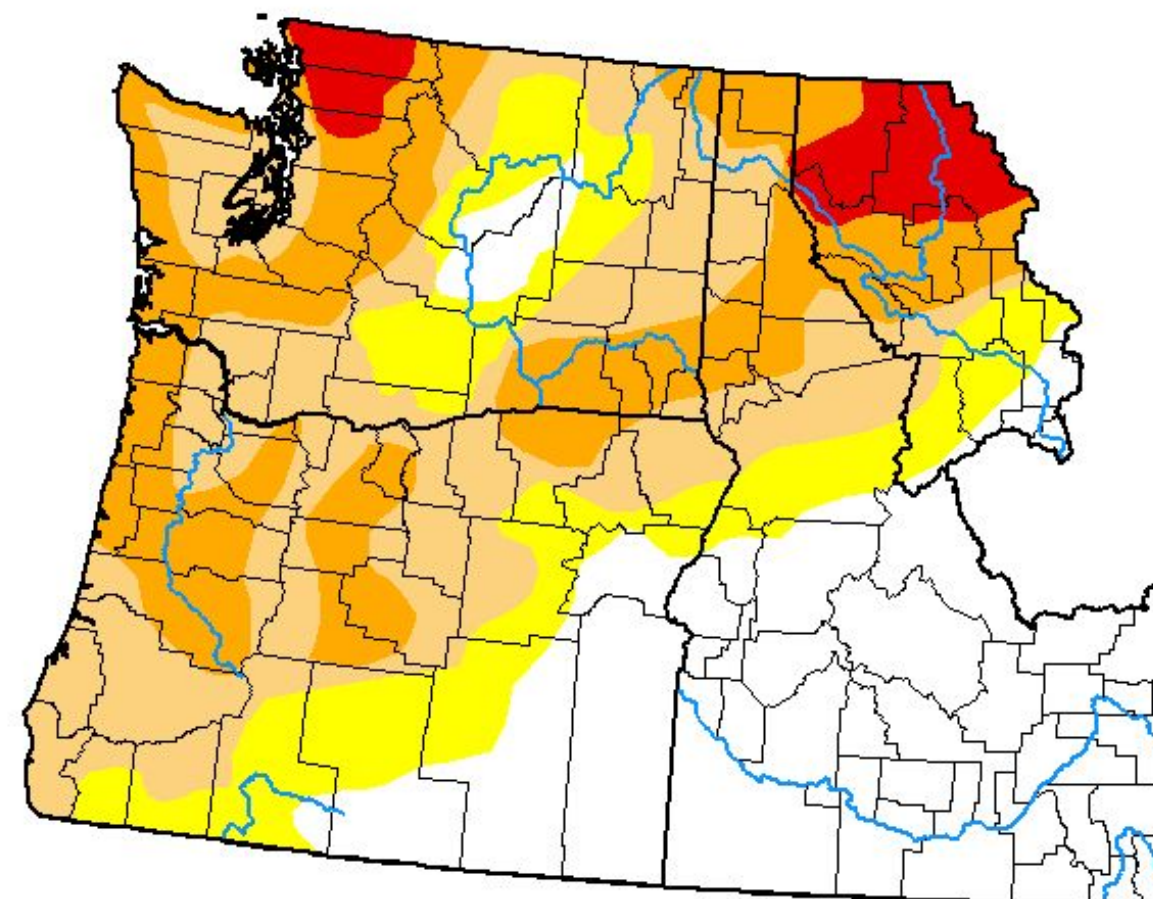


# Current Drought Conditions

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Pendleton, OR  
Saturday, September 16

- Severe Drought (D2) persists in central, north-central, and northeast Oregon and also southeast Washington. A small area of D2 is also present along the east slopes of the Washington Cascades.
- Moderate Drought (D1) is widespread in central/eastern Oregon and southeast Washington with more limited coverage in south-central Washington.

## U.S. Drought Monitor Pacific Northwest DEWS



**September 12, 2023**  
(Released Thursday, Sep. 14, 2023)  
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	33.69	66.31	51.09	24.30	4.24	0.00
Last Week 09-05-2023	33.00	67.00	51.09	22.52	4.24	0.00
3 Months Ago 06-13-2023	36.47	63.53	29.05	3.89	0.00	0.00
Start of Calendar Year 01-03-2023	14.80	85.20	48.85	24.03	9.29	0.50
Start of Water Year 09-27-2022	2.06	97.94	62.50	24.12	11.86	0.50
One Year Ago 09-13-2022	18.39	81.61	51.76	24.00	11.86	0.50

### Intensity:

None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

### Author:

Brad Pugh  
CPC/NOAA



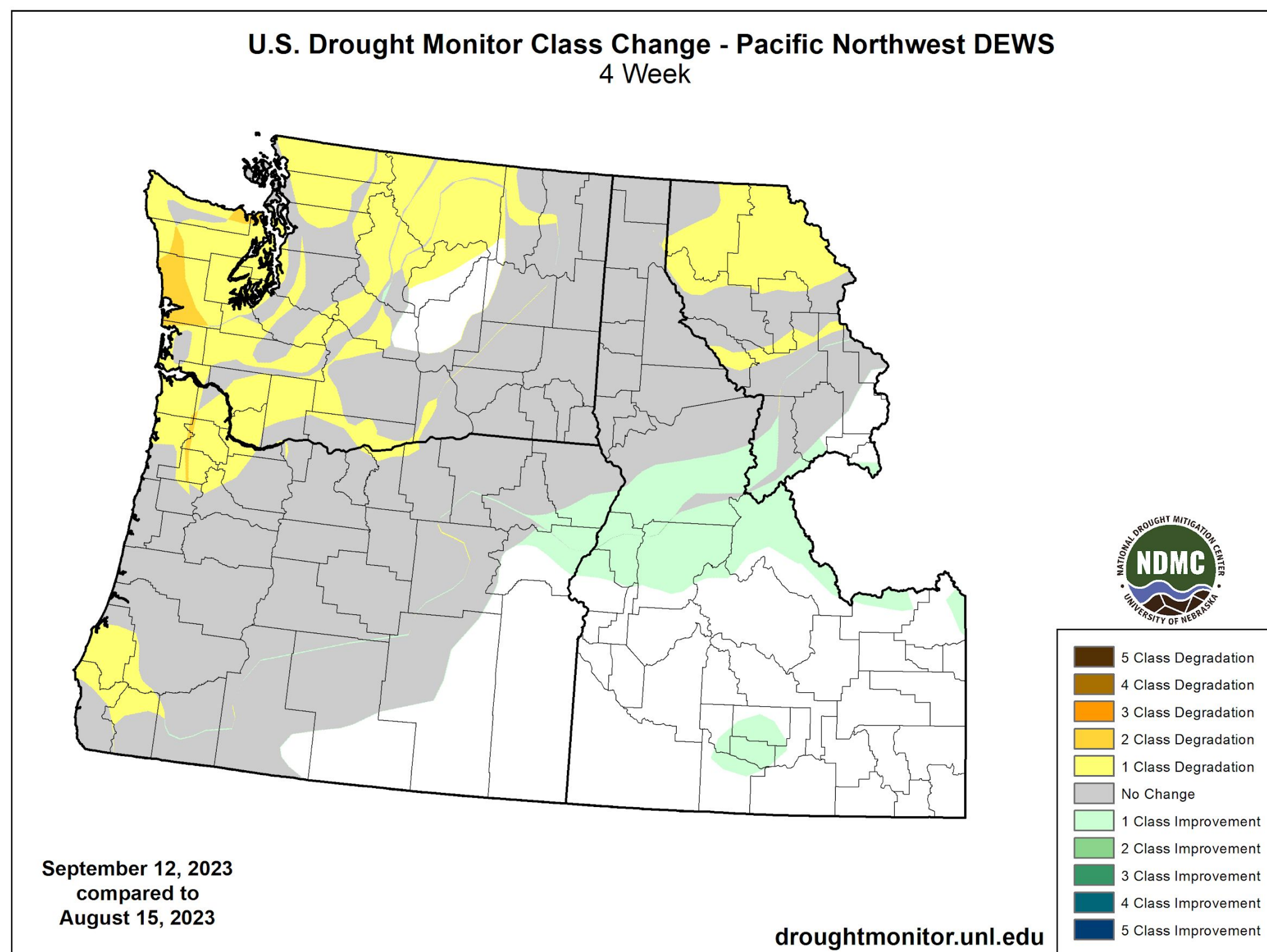
[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)



# One-Month Change

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- Notable Improvement: Spatially limited 1-category improvement for southeast Union and Wallowa counties.
- Notable Degradation: Spatially limited 1-category degradation for south-central Washington and far north-central Oregon.

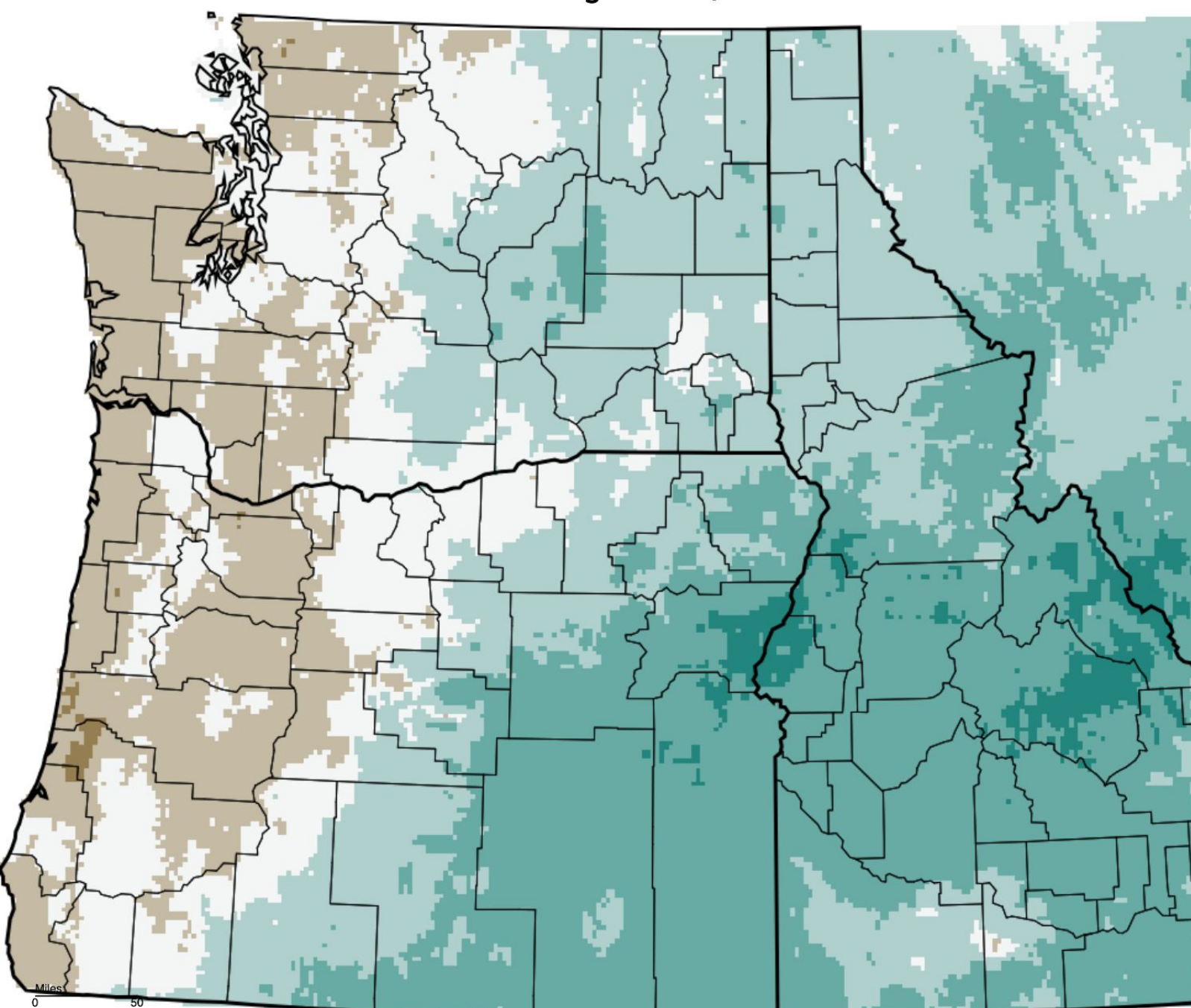




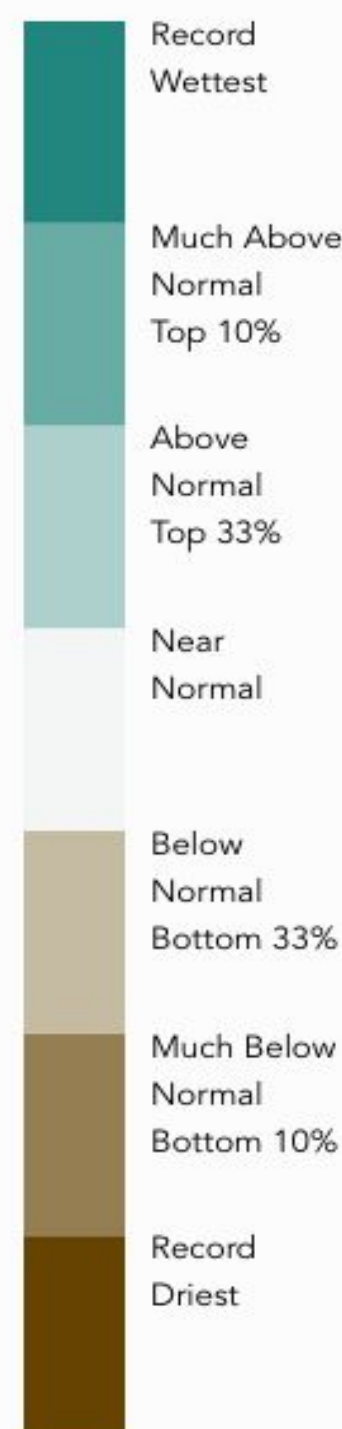
# Precipitation Percentiles

## Latest Full Month

### Pacific Northwest - Precipitation August 2023, Percentile



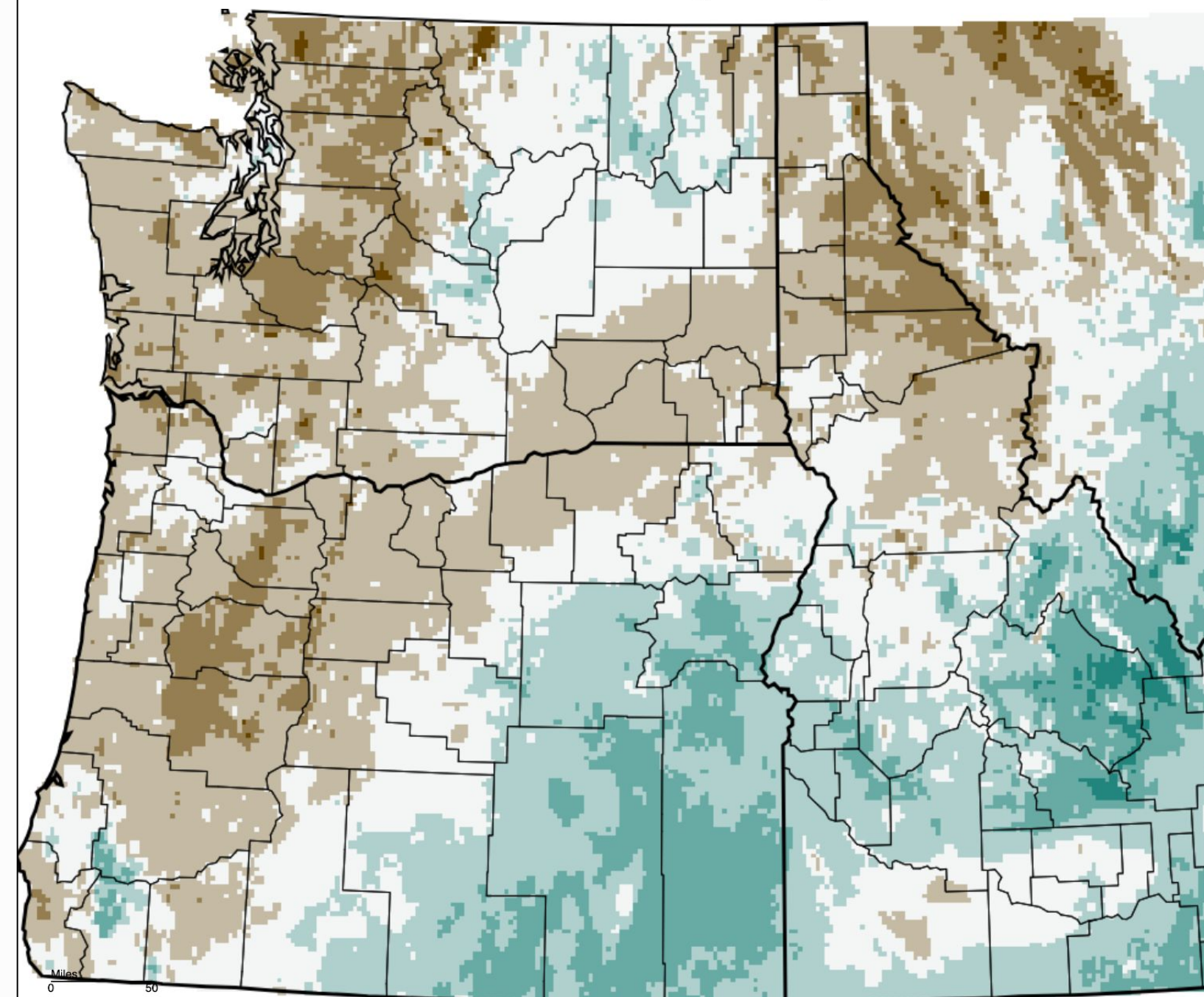
WestWide Drought Tracker, WRCC, Climate Engine, Data Source: PRISM Prelim, created 05 Sep 2023



Rankings (1895-2023)

## Water Year to Date

### Pacific Northwest - Precipitation October 2022 - August 2023, Percentile



WestWide Drought Tracker, WRCC, Climate Engine, Data Source: PRISM Prelim, created 05 Sep 2023

- During August (left graphic), with the exception of the east slopes of the Cascades and western portions of the lower Columbia Basin, the majority of eastern Oregon and eastern Washington recorded above- or much-above-normal precipitation.
- Mostly below-normal precipitation has been recorded along the east slopes of the Cascades, lower Columbia Basin and foothills of the Blue Mountains for the current water year to date (right graphic). Generally near- to above-normal precipitation has been observed for the central and eastern mountains.

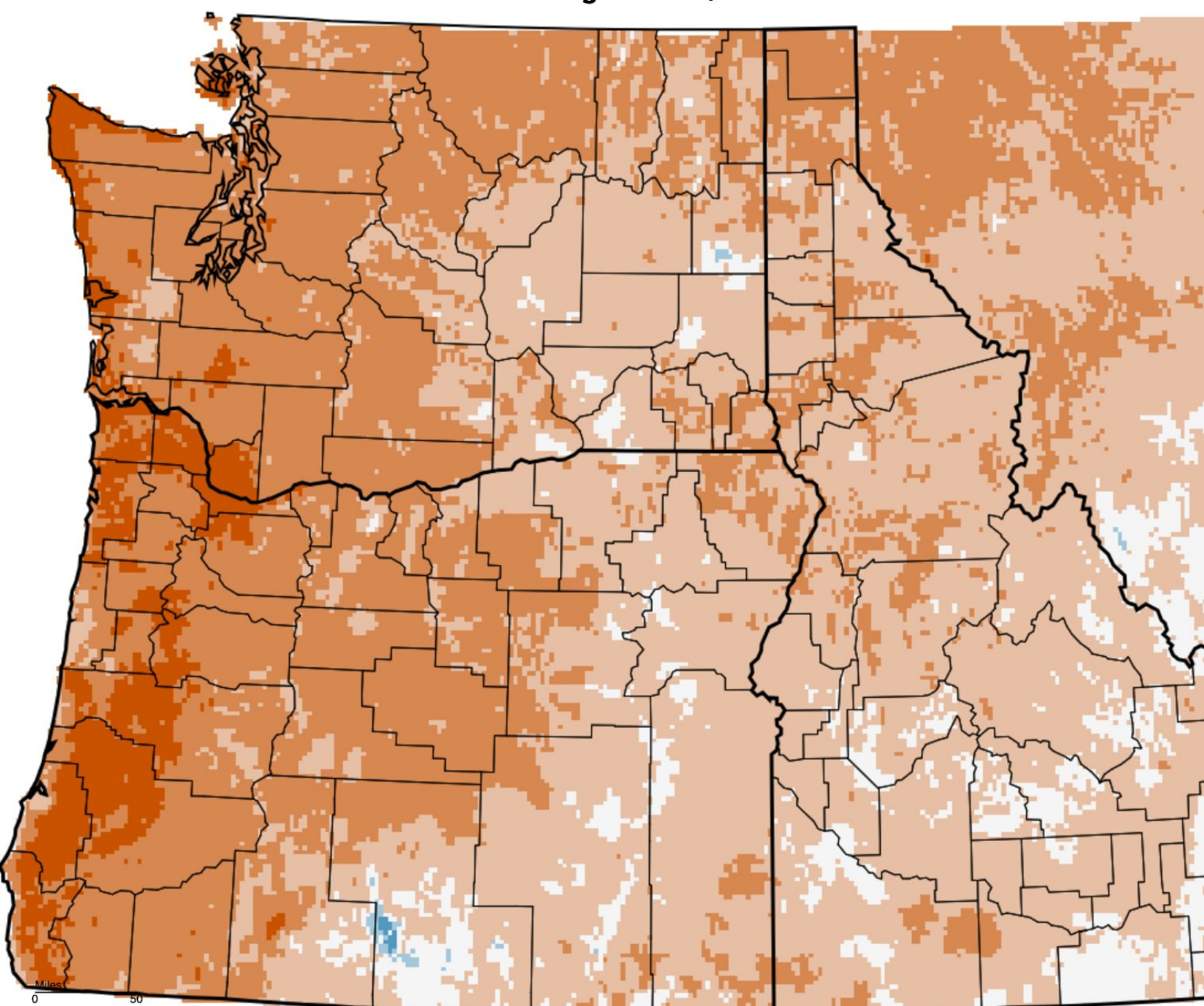


# Temperature Percentiles

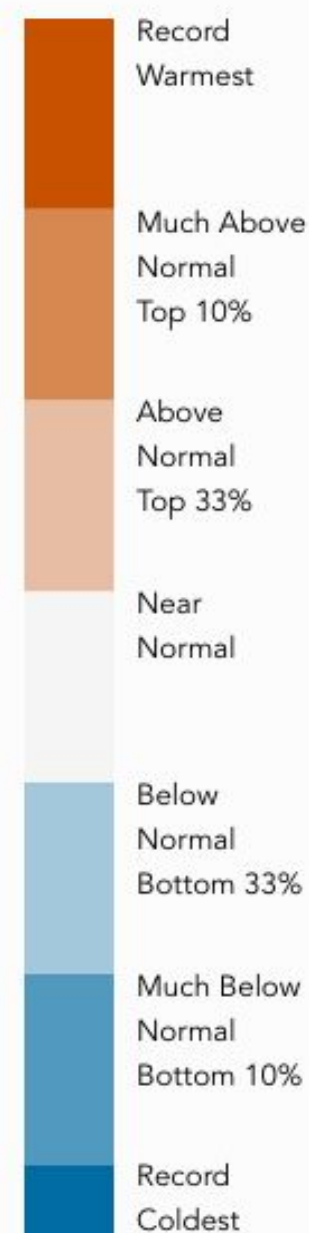
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Latest Full Month

Pacific Northwest - Mean Temperature  
August 2023, Percentile



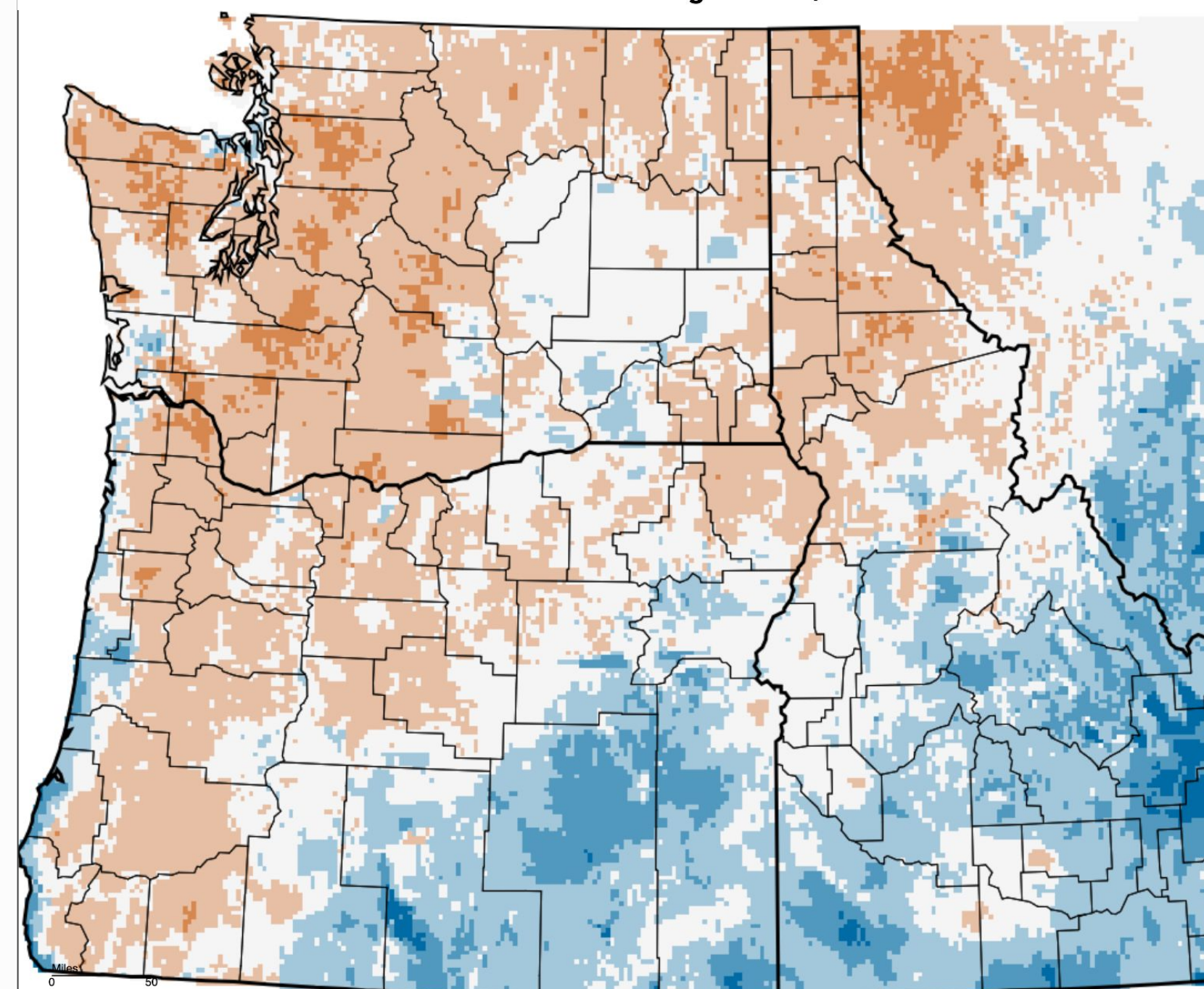
WestWide Drought Tracker, WRCC, Climate Engine, Data Source: PRISM Prelim, created 05 Sep 2023



Rankings (1895-2023)

Water Year to Date

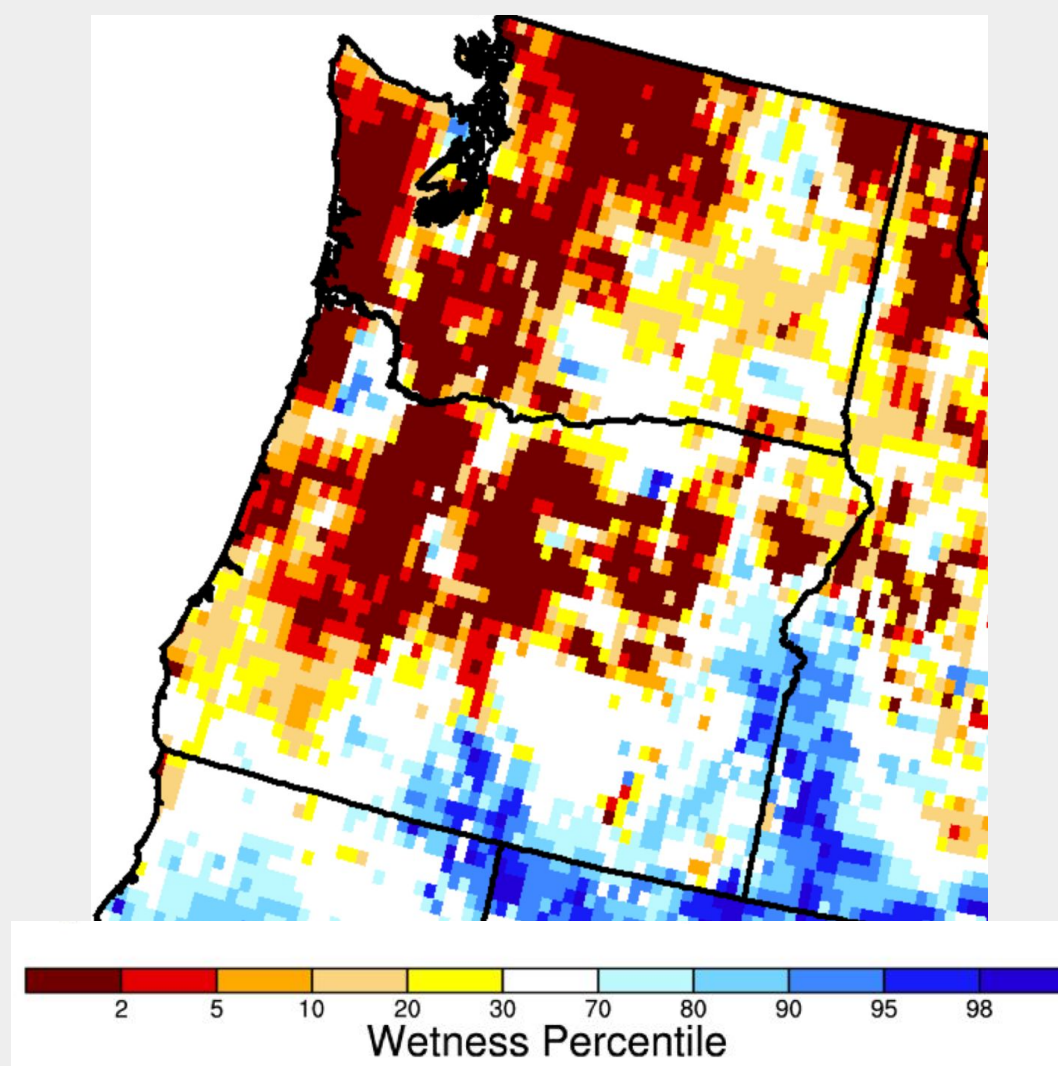
Pacific Northwest - Mean Temperature  
October 2022 - August 2023, Percentile



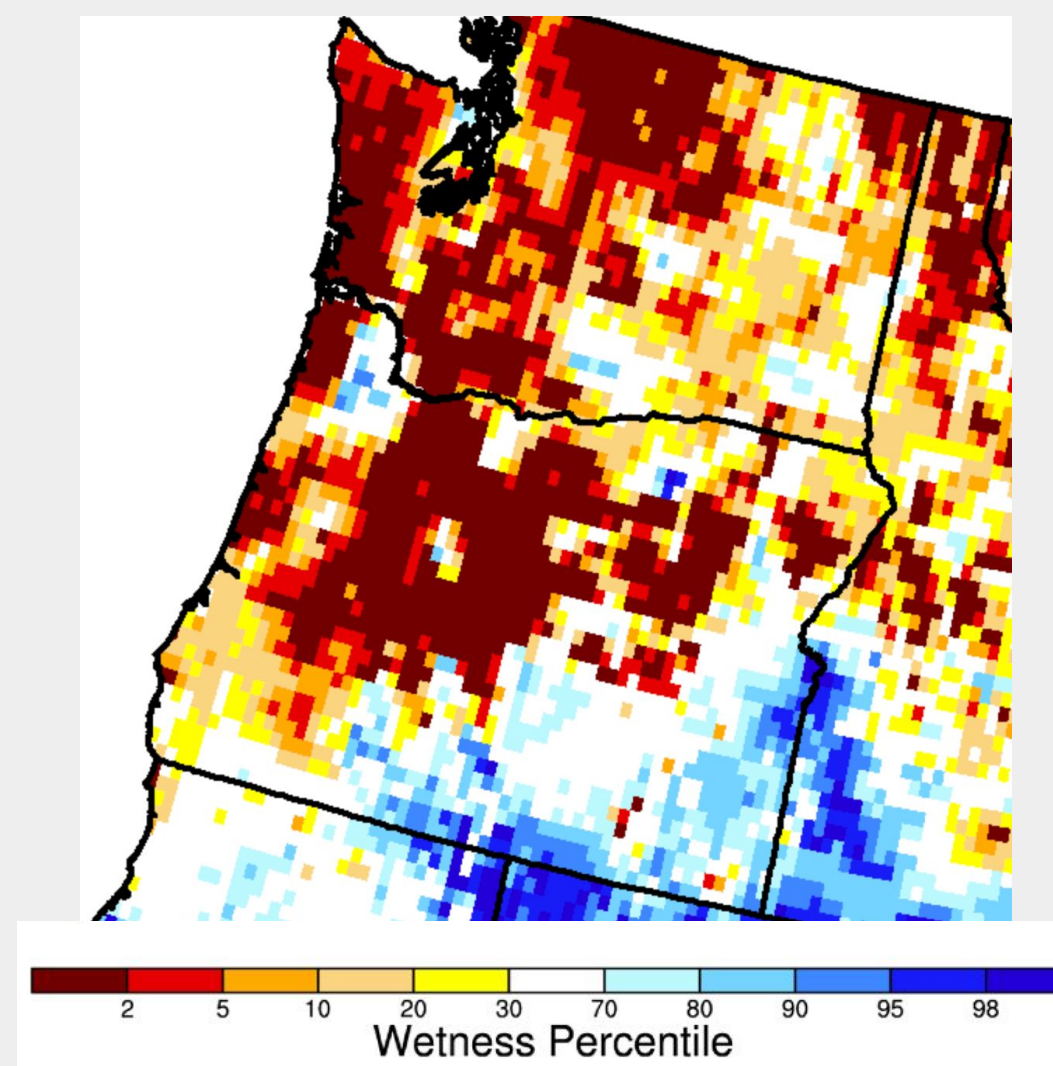
WestWide Drought Tracker, WRCC, Climate Engine, Data Source: PRISM Prelim, created 05 Sep 2023

- With the exception of isolated areas of near-normal temperatures, predominantly above- to much-above-normal temperatures were recorded across eastern OR and eastern WA during August (left graphic).
- Temperatures have ranged from below normal to above normal for the current water year to date (right graphic).

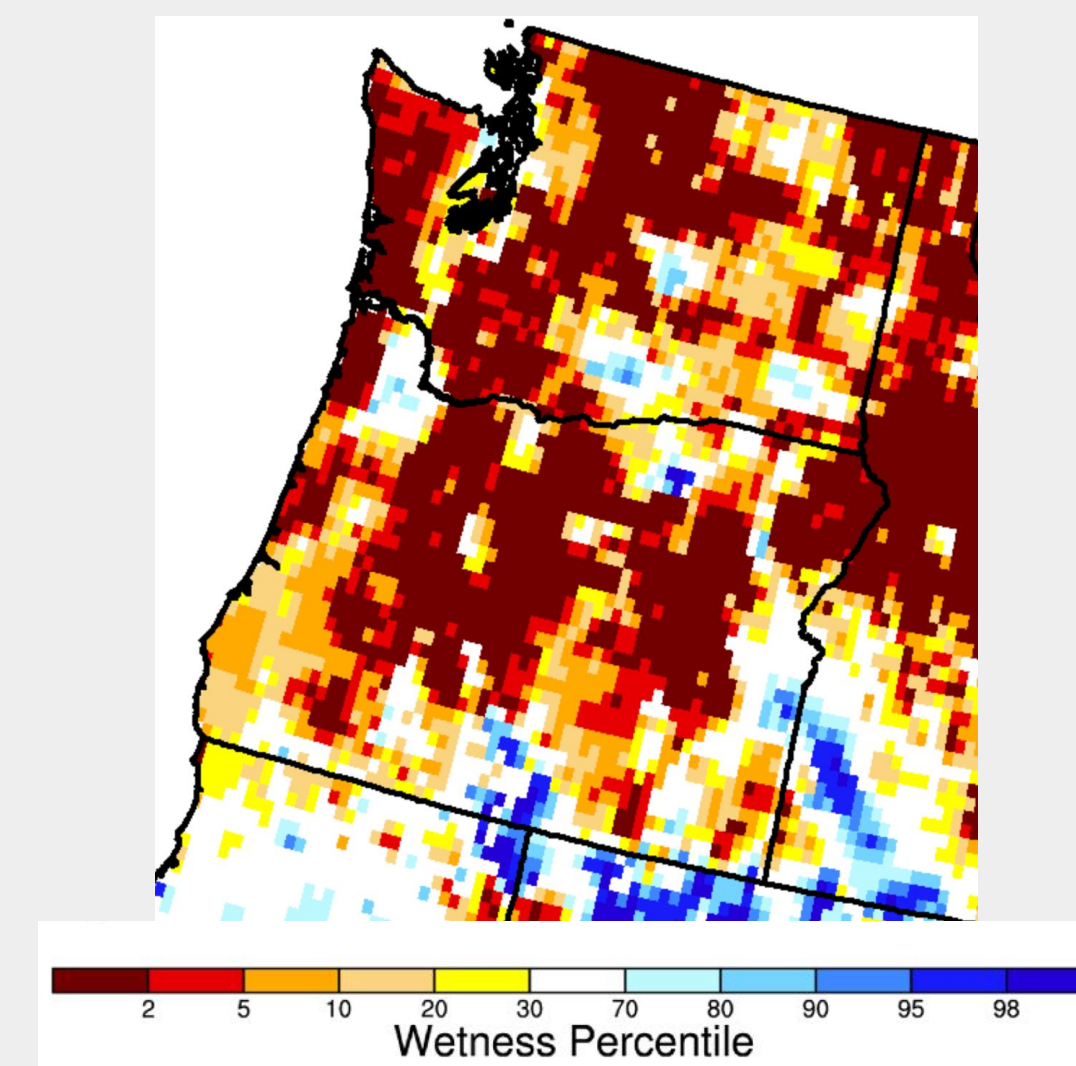




Surface Soil Moisture  
Early September



Root-zone Soil Moisture  
Early September

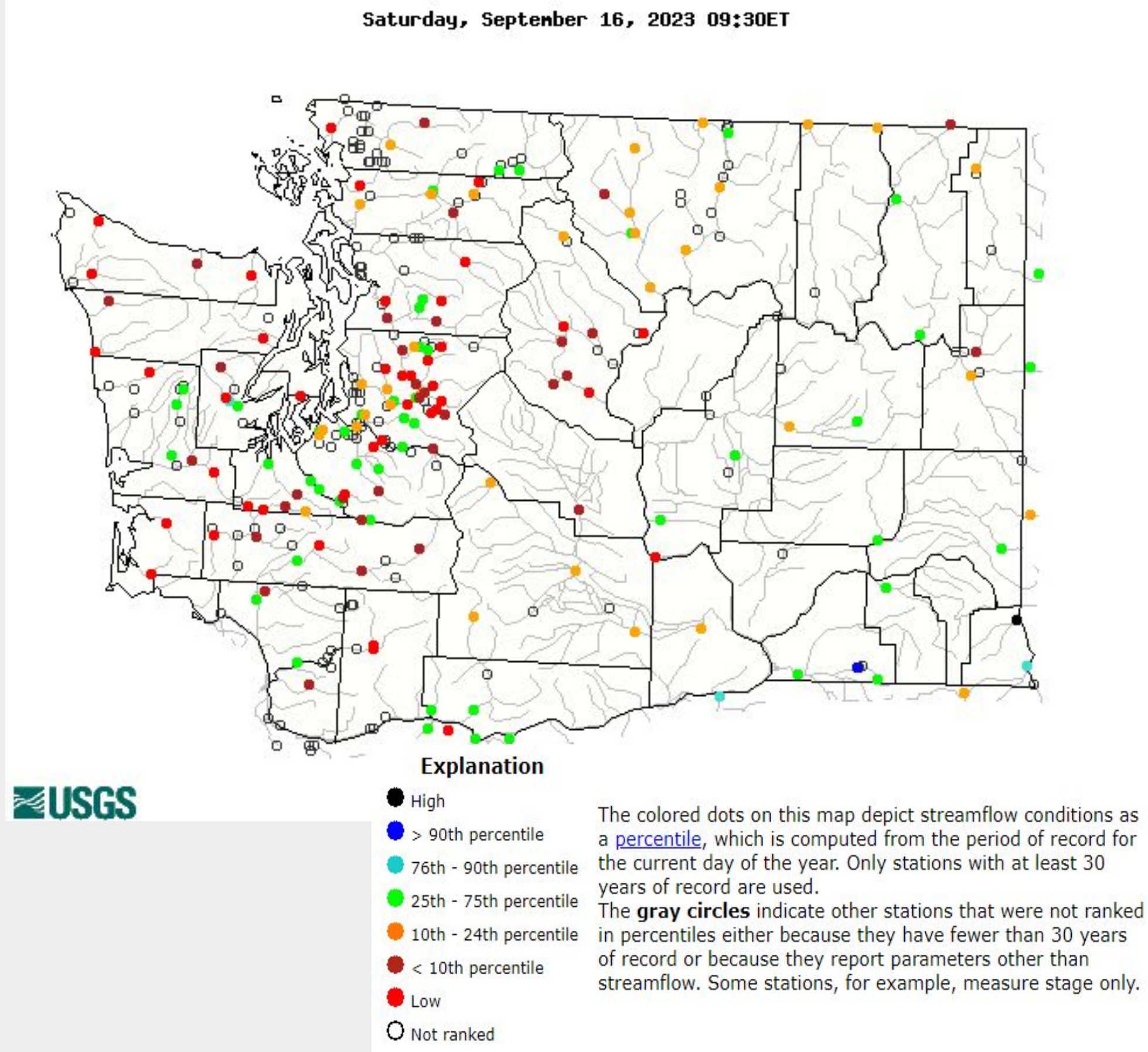
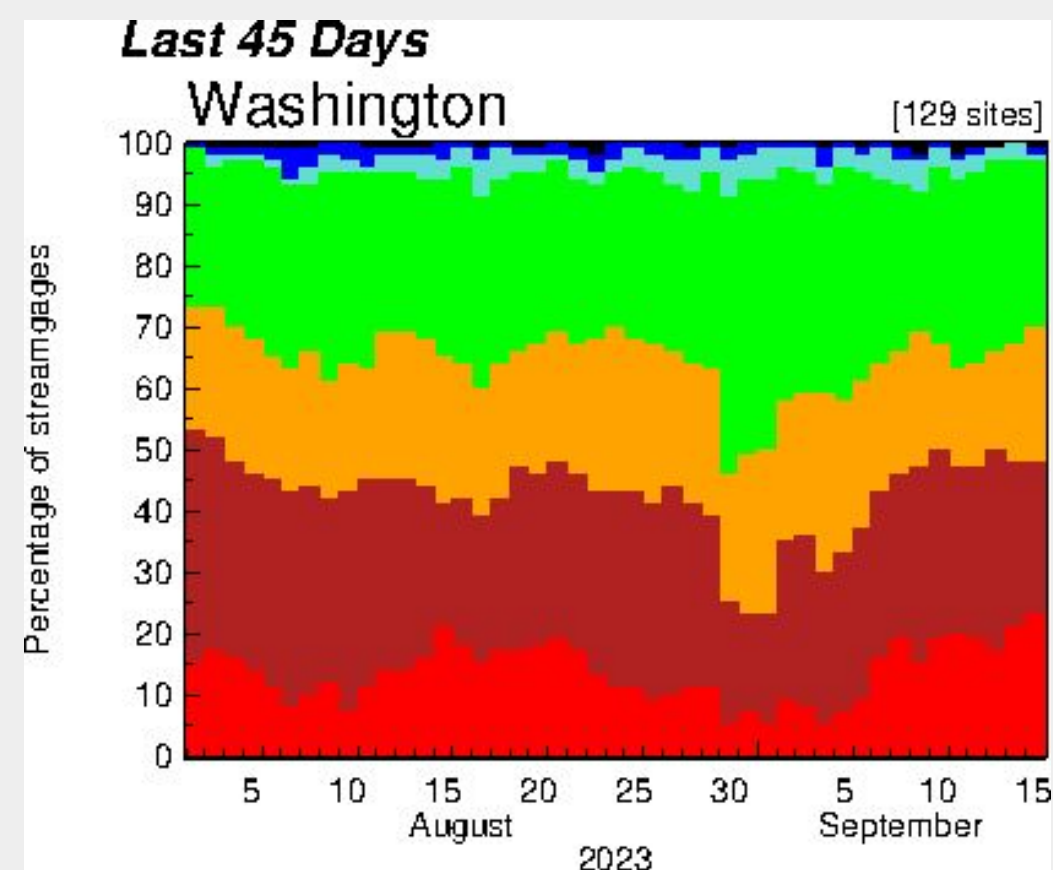


Shallow Groundwater  
Early September

- Surface-based soil moisture (top 2 centimeters of soil) remains drier than normal across central/north-central Oregon and portions of the mountains, but widespread rainfall during August across the Columbia Basin and much of the eastern mountains has led to areas of near-normal surface soil moisture for mid-September.
- Root-zone soil moisture (top 1 meter of soil) mirrors surface-based soil moisture, though wetness percentiles are somewhat lower across the Columbia Basin.
- There has been little change in shallow groundwater with a patchwork of widely varying percentiles across the forecast area.

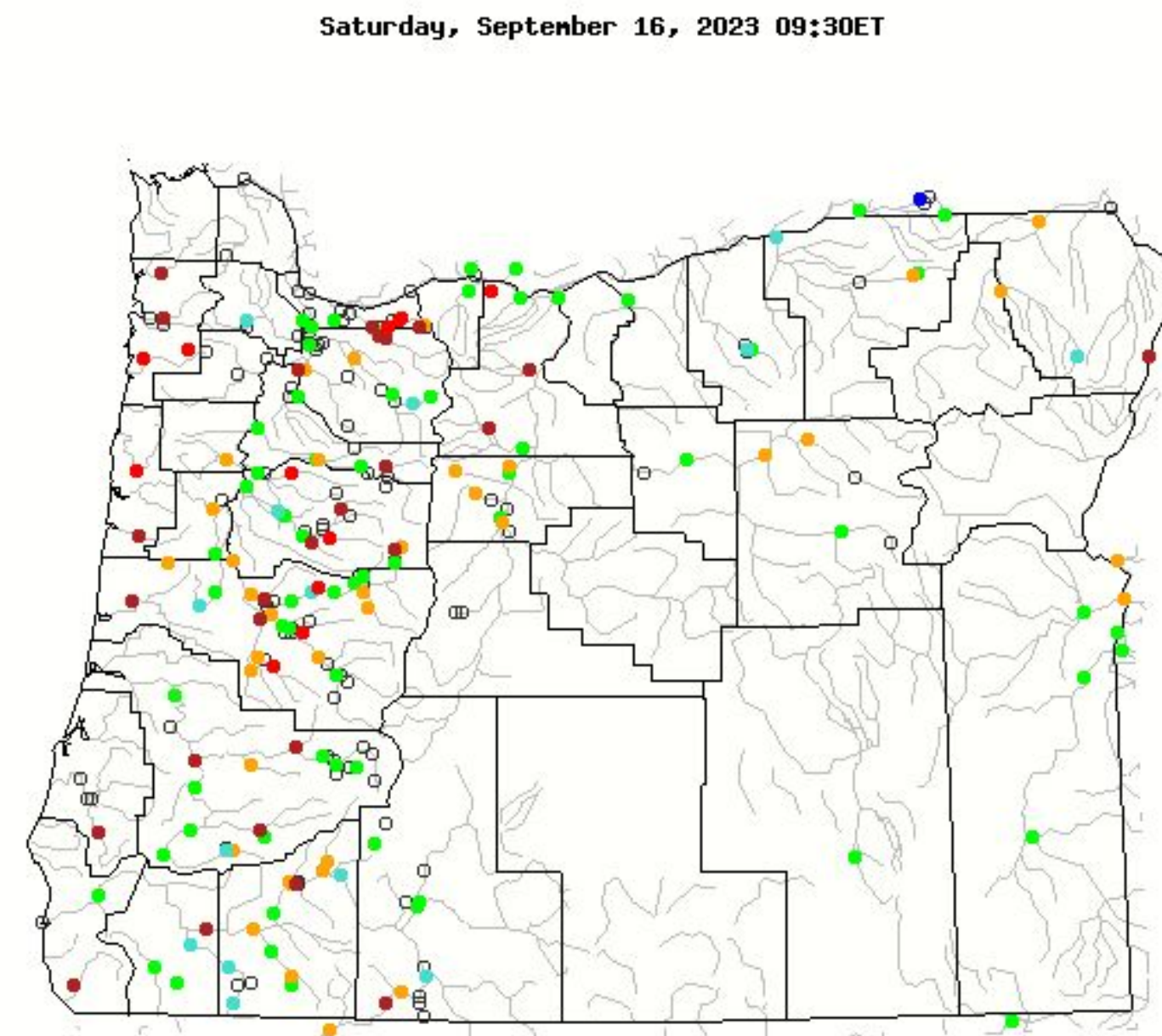
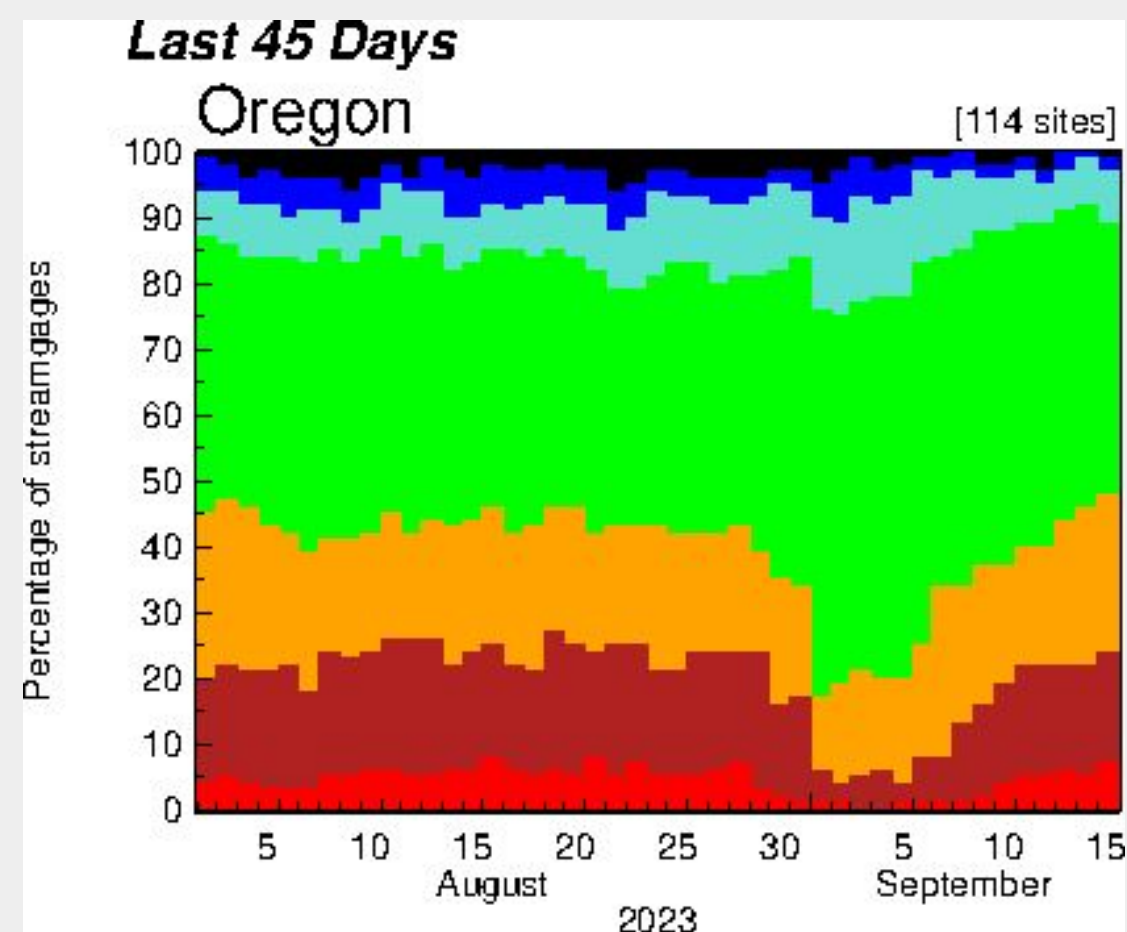


- Streamflow percentiles (right) vary greatly across central, south-central, and southeast Washington with the highest streamflow percentiles across southeast Washington.
- The cumulative plot (below) for the entire state of Washington shows a brief improvement in late August, though the percentage of gages reporting below-normal streamflow has risen again through mid-September.





- Streamflow percentiles (right) vary greatly across central and eastern Oregon.
- The cumulative plot (below) for the entire state of Oregon shows an improvement (more gages reporting normal percentiles) in late August due to significant rain, the heaviest of which fell across eastern Oregon. A dry start to September has prompted an increase in the number of gages reporting below-normal values.



## Explanation

- High
- > 90th percentile
- 76th - 90th percentile
- 25th - 75th percentile
- 10th - 24th percentile
- < 10th percentile
- Low
- Not ranked

The colored dots on this map depict streamflow conditions as a [percentile](#), which is computed from the period of record for the current day of the year. Only stations with at least 30 years of record are used.

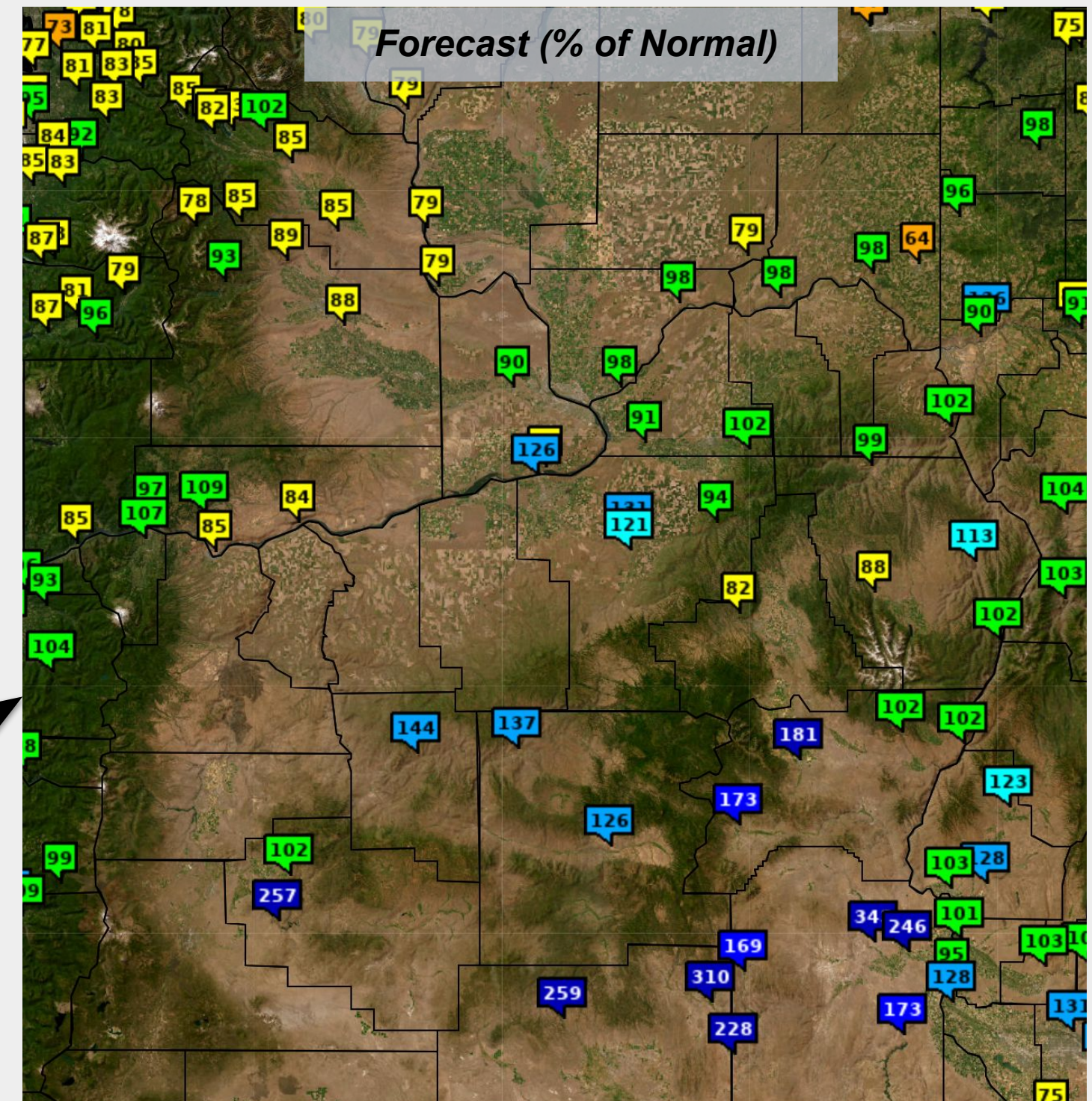
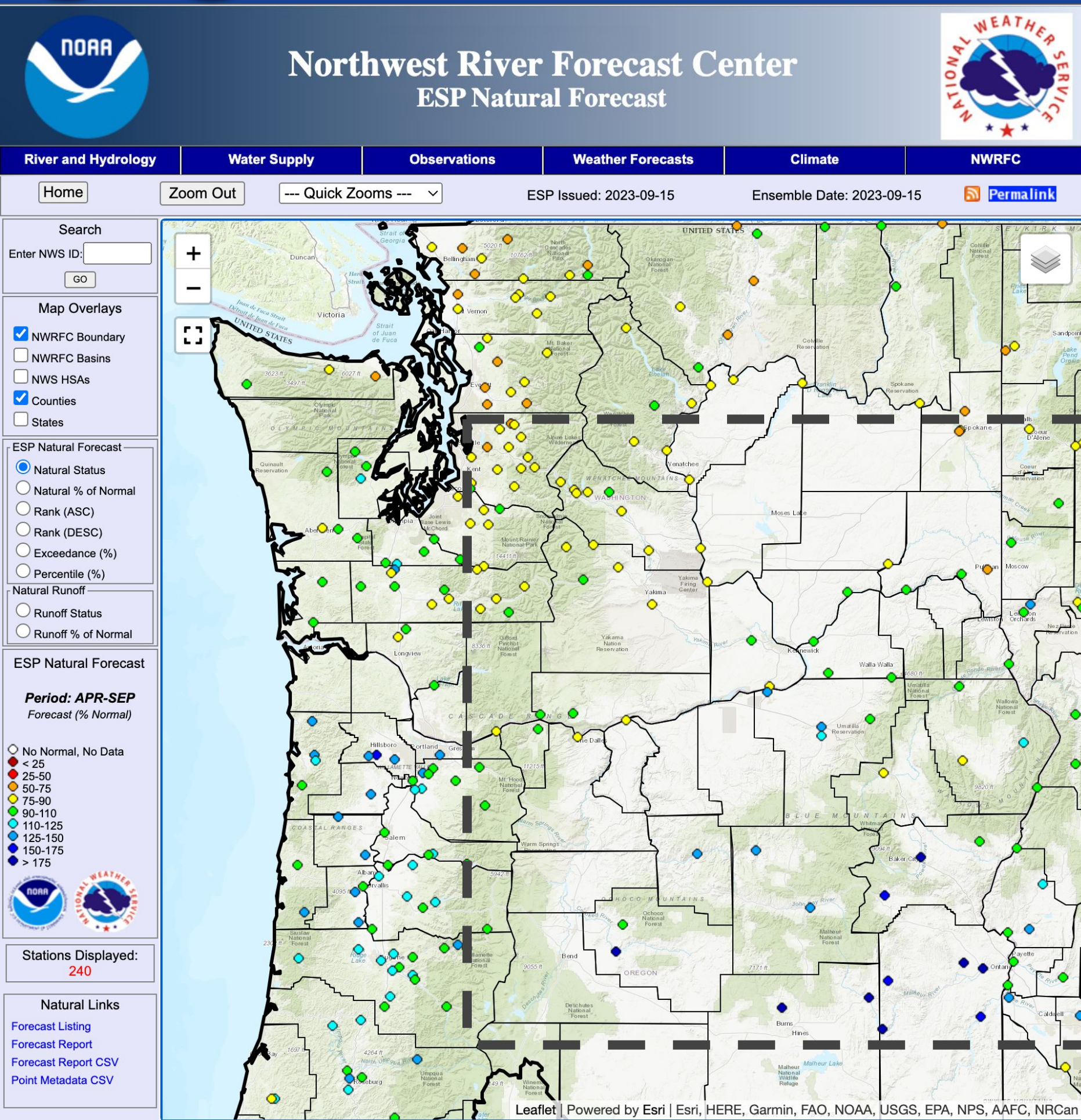
The **gray circles** indicate other stations that were not ranked in percentiles either because they have fewer than 30 years of record or because they report parameters other than streamflow. Some stations, for example, measure stage only.





# Water Supply Forecast - Apr.-Sept. 2023

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- Near- to below-normal water supply across south-central WA, near-normal for northeast OR and southeast WA. Central and southeast OR have above-normal water supply forecast.
- You can find out more about water supply forecasts and watch them evolve at: <https://www.nwrfc.noaa.gov/rfc/>





# September Outlook

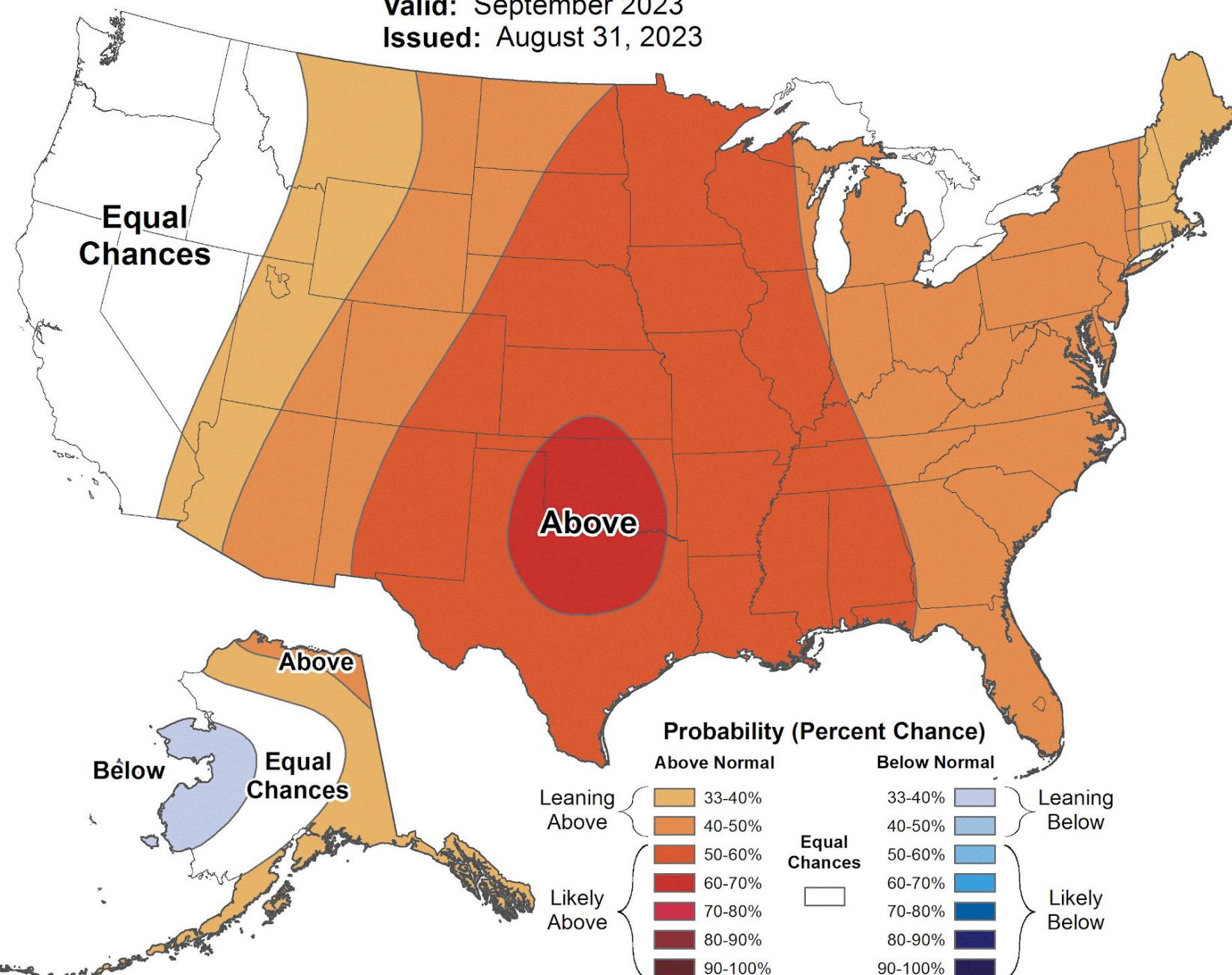
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## Monthly Temperature Outlook



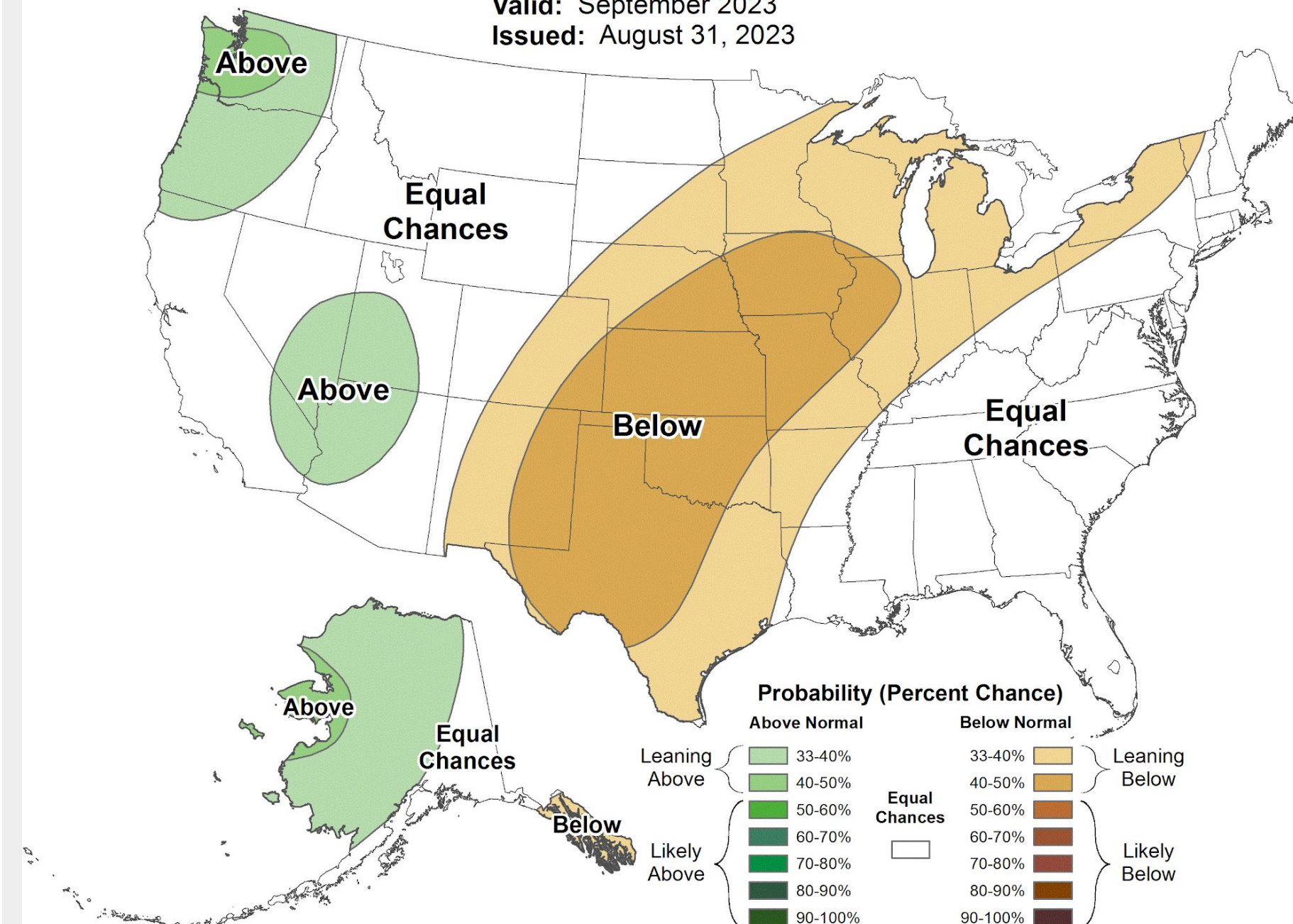
Valid: September 2023  
Issued: August 31, 2023



## Monthly Precipitation Outlook



Valid: September 2023  
Issued: August 31, 2023



**Temperatures:** Equal chances of below-, near-, or above-normal temperatures regionwide.

**Precipitation:** Equal chances across far eastern OR and far eastern WA. 33-50% chance of above-normal precipitation elsewhere.

*Equal chances means that there is an equal chance of the odds tilting in either direction.*





# 3-4 Week Outlook

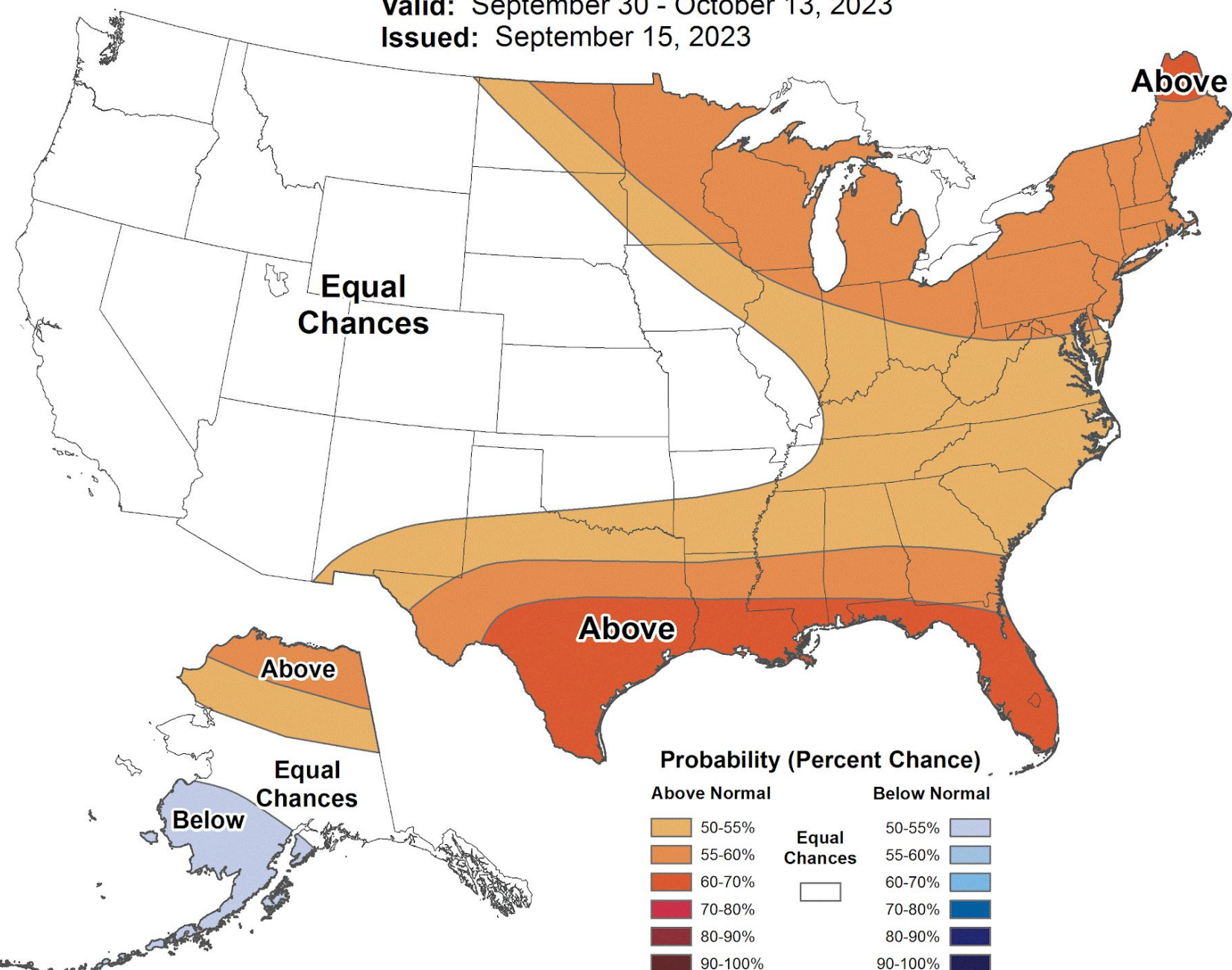
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## Weeks 3-4 Temperature Outlook



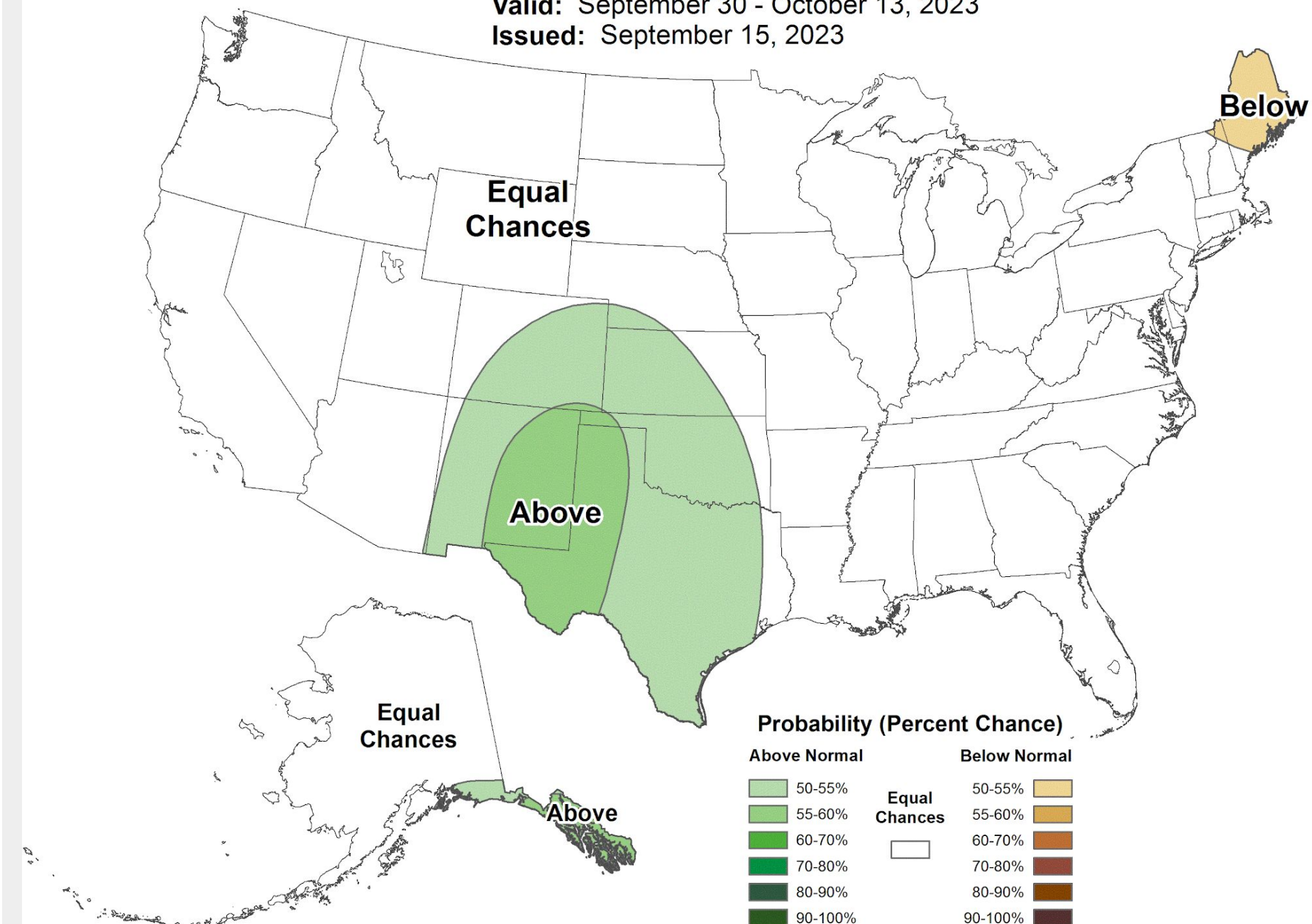
Valid: September 30 - October 13, 2023  
Issued: September 15, 2023



## Weeks 3-4 Precipitation Outlook



Valid: September 30 - October 13, 2023  
Issued: September 15, 2023



**Temperatures:** Equal chances of below-, near-, or above-normal temperatures regionwide.

**Precipitation:** Equal chances of below-, near-, or above-normal precipitation regionwide.

*Equal chances means that there is an equal chance of the odds tilting in either direction.*





# Seasonal / 3-Month Outlook

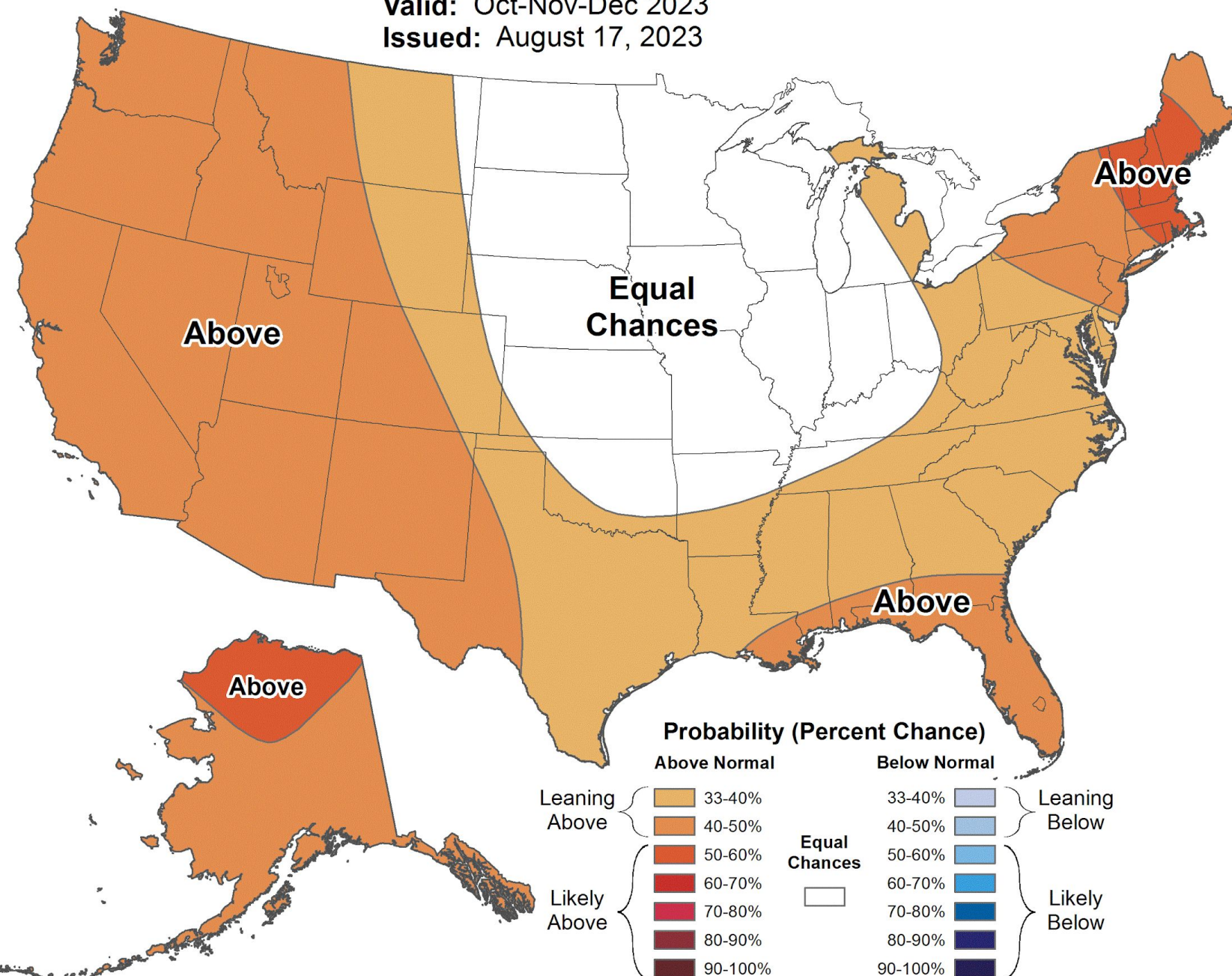
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## Seasonal Temperature Outlook



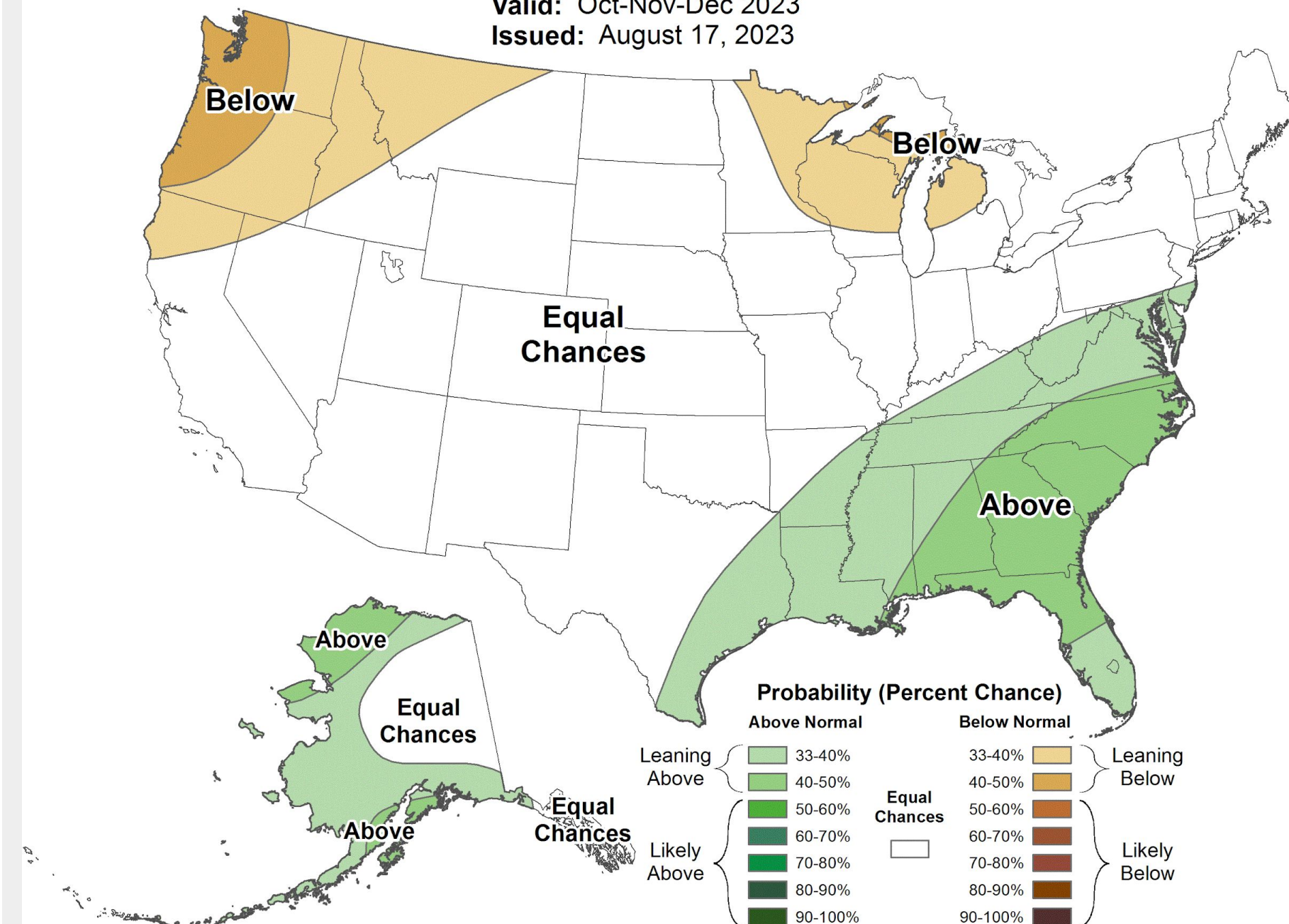
Valid: Oct-Nov-Dec 2023  
Issued: August 17, 2023



## Seasonal Precipitation Outlook



Valid: Oct-Nov-Dec 2023  
Issued: August 17, 2023



Increased chances (40-50%) of **above-normal temperatures**.  
*Equal chances means that there is an equal chance of the odds tilting in either direction.*

Increased chances (33-50%) of **below-normal precipitation**.  
*Equal chances means that there is an equal chance of the odds tilting in either direction.*





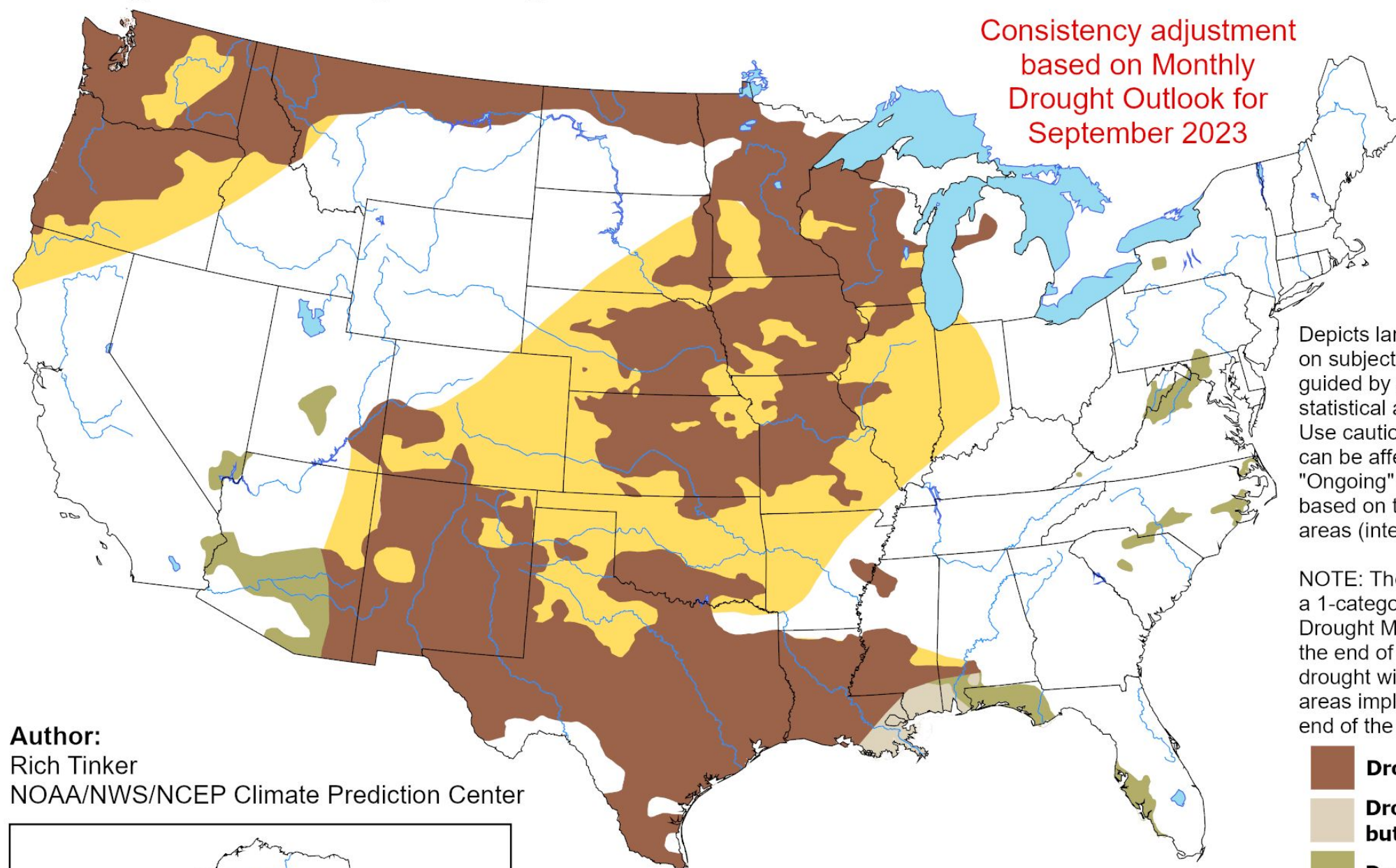
# Seasonal Drought Outlook

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- Drought is forecast to persist through the remainder of summer and into fall across areas currently experiencing drought conditions.
- Drought development is likely for all of Washington and all but southeast Oregon through the remainder of summer and into fall.

## U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

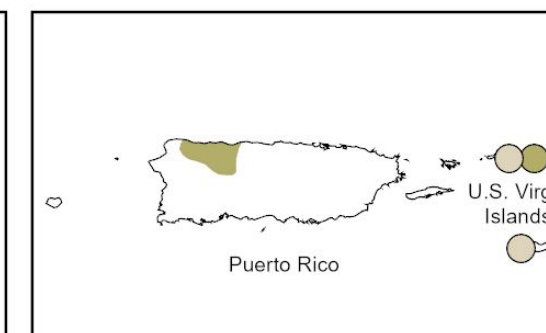
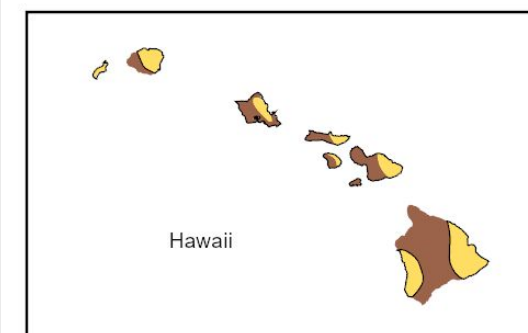
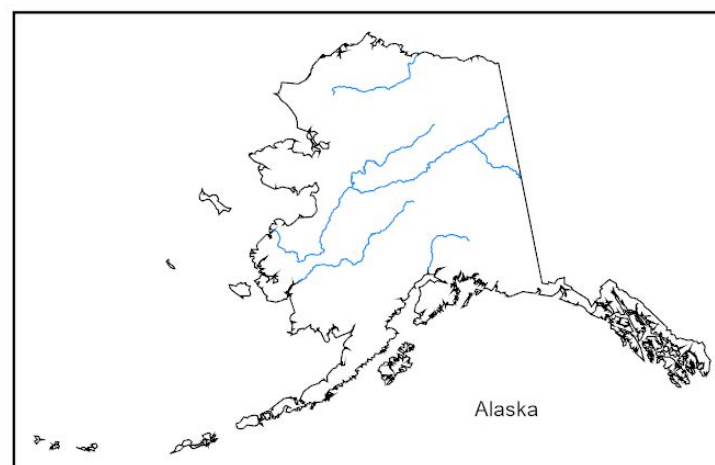
Valid for September 1 - November 30, 2023  
Released August 31, 2023



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

Author:  
Rich Tinker  
NOAA/NWS/NCEP Climate Prediction Center



- Drought persists
- Drought remains, but improves
- Drought removal likely
- Drought development likely
- No drought



<https://go.usa.gov/3eZ73>

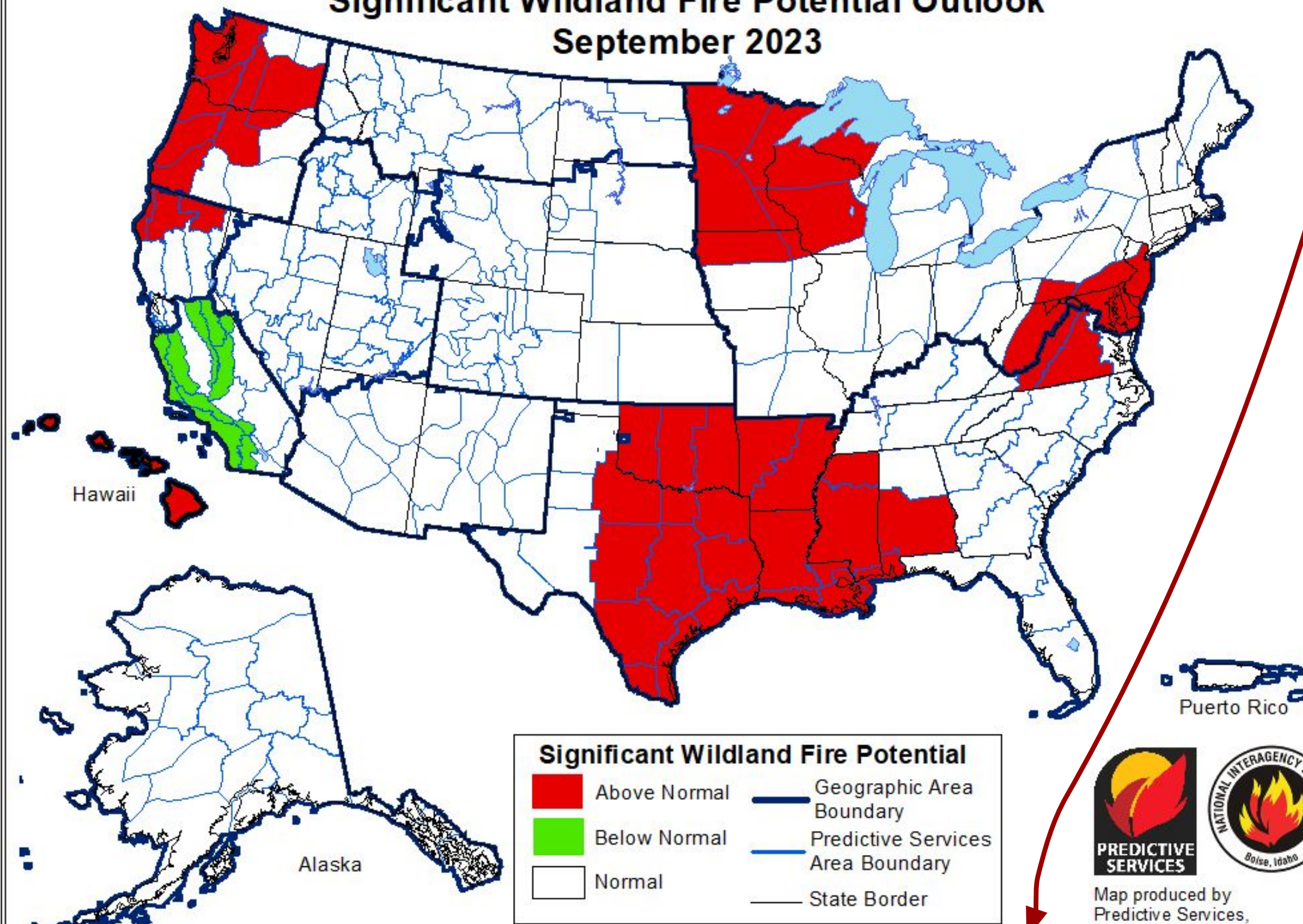




# Wildland Fire Potential Outlook - September

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Saturday, September 16

## Significant Wildland Fire Potential Outlook September 2023



**Above-normal significant wildland fire potential** during September for predictive service areas NW05, NW06, and NW10.

National Significant Wildland Fire Potential Outlook:  
<https://www.nifc.gov/nicc/predictive/outlooks/outlooks.htm>

Above normal significant wildland fire potential indicates a greater than usual likelihood that significant wildland fires will occur. Significant wildland fires should be expected at typical times and intervals during normal significant wildland fire potential conditions. Significant wildland fires are still possible but less likely than usual during forecasted below normal periods.



Map produced by  
Predictive Services,  
National Interagency Fire Center  
Boise, Idaho  
Issued September 1, 2023  
Next issuance October 1, 2023

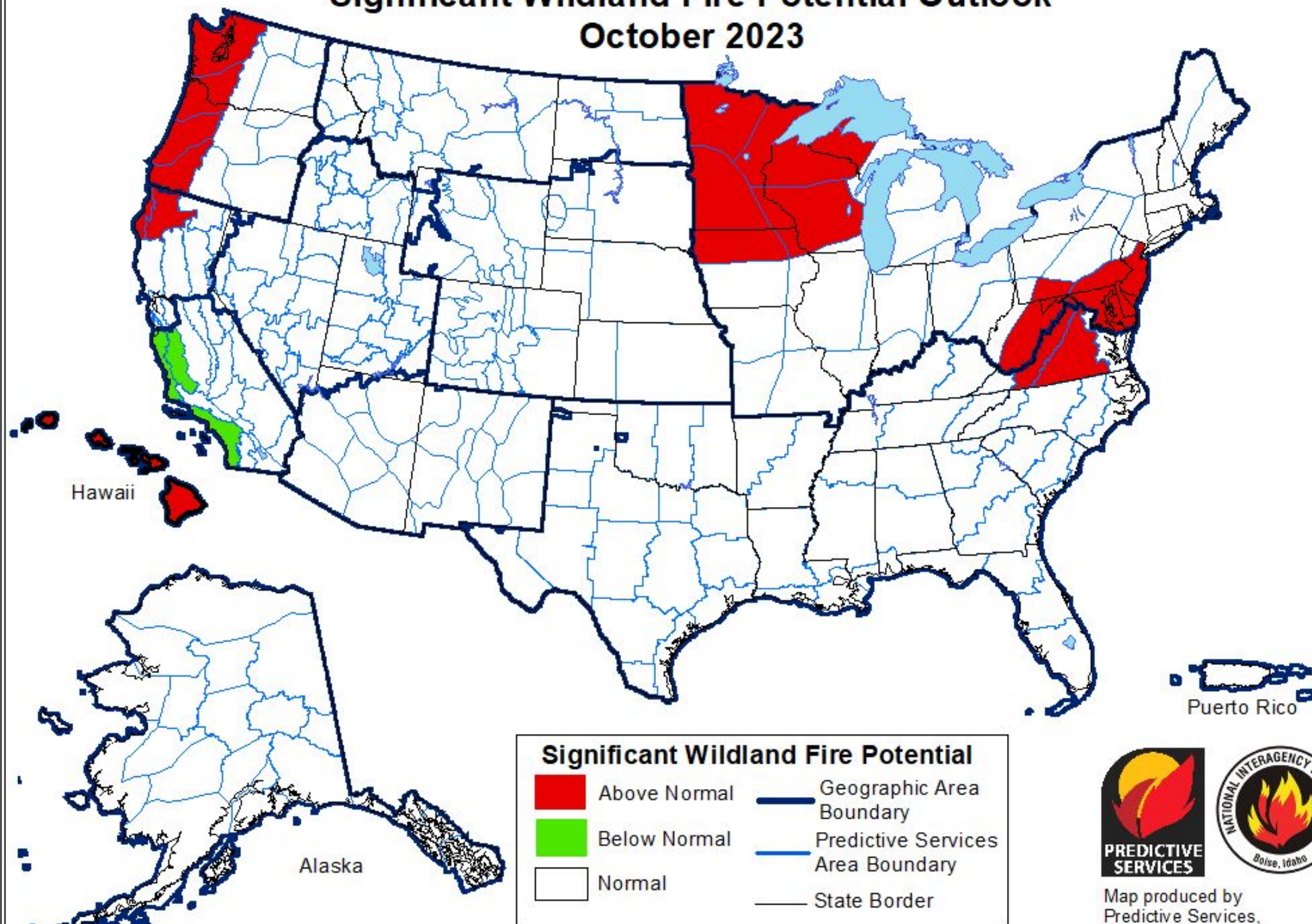




# Wildland Fire Potential Outlook - October

Weather Forecast Office  
Pendleton, OR  
Saturday, September 16

## Significant Wildland Fire Potential Outlook October 2023



Above normal significant wildland fire potential indicates a greater than usual likelihood that significant wildland fires will occur. Significant wildland fires should be expected at typical times and intervals during normal significant wildland fire potential conditions. Significant wildland fires are still possible but less likely than usual during forecasted below normal periods.

Map produced by  
Predictive Services,  
National Interagency Fire Center  
Boise, Idaho  
Issued September 1, 2023  
Next issuance October 1, 2023

**Normal significant wildland fire potential**  
during October for the entirety of eastern  
Oregon and eastern Washington.

National Significant Wildland Fire Potential Outlook:  
<https://www.nifc.gov/nicc/predictive/outlooks/outlooks.htm>





# Impacts

Weather Forecast Office  
Pendleton, OR  
Saturday, September 16

- **Severe Drought (D2) persists in central, north-central, and northeast OR and also southeast WA. A small area of D2 is also present along the east slopes of the WA Cascades. Moderate Drought (D1) is widespread in central/eastern OR and southeast WA with more limited coverage in south-central WA.**
  - **Drought conditions are forecast to persist with expansion likely across the Pacific Northwest through the remainder of summer and into fall.**
- **For the remainder of the water year, near- to below-normal water supply is forecast across south-central WA, while near-normal is forecast for northeast OR and southeast WA. Central and southeast OR have above-normal water supply forecast.**
  - **While several reservoirs in the vicinity of the Ochocos are above normal, many of central OR and south-central WA's reservoirs continue to see below-normal reservoir levels which may affect agriculture production, fish, and other aquatic species as well recreation activities through the summer months and into fall. Farther east, reservoir levels in northeast and southeast OR are mostly near or above normal.**
- **Potential impacts for central and north-central OR include reduced agricultural yield, crop loss, and poor pasture conditions where irrigation water isn't available.**





# Drought Outlook Summary

Weather Forecast Office  
Pendleton, OR  
Saturday, September 16

## Key Points:

- Notable Improvement: Spatially limited 1-category improvement for southeast Union and Wallowa counties.
- Notable Degradation: Spatially limited 1-category degradation for south-central Washington and far north-central Oregon.
- During August, with the exception of the east slopes of the Cascades and western portions of the lower Columbia Basin, the majority of eastern OR and eastern WA recorded above- or much-above-normal precipitation. With the exception of isolated areas of near-normal temperatures, predominantly above- to much-above-normal temperatures were recorded across eastern OR and eastern WA during August.
- For September: Equal chances of below-, near-, or above-normal temperatures regionwide. Equal chances for precipitation across far eastern OR and far eastern WA with a 33-50% chance of above-normal precipitation elsewhere.
- Above-normal significant wildland fire potential is anticipated through September for predictive service areas NW05, NW06, and NW10. Normal significant wildland fire potential for eastern OR and eastern WA is expected during October.
- Please report any drought conditions and/or impacts in your area to WFO Pendleton, via email to [camden.plunkett@noaa.gov](mailto:camden.plunkett@noaa.gov) and [ed.townsend@noaa.gov](mailto:ed.townsend@noaa.gov) or through the National Drought Mitigation Center at <https://droughtimpacts.unl.edu/>





# Related Websites

Weather Forecast Office  
Pendleton, OR  
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- U.S. Drought Monitor: [www.droughtmonitor.unl.edu](http://www.droughtmonitor.unl.edu)
- U.S. Drought Portal: [drought.gov](http://drought.gov)
- Climate Prediction Center: [www.cpc.ncep.noaa.gov](http://www.cpc.ncep.noaa.gov)
- NWS Northwest River Forecast Center: [www.nwrfc.noaa.gov](http://www.nwrfc.noaa.gov)
- NWS AHPS Precipitation: [water.weather.gov/precip/index.php?location\\_type=wfo&location\\_name=pdt](http://water.weather.gov/precip/index.php?location_type=wfo&location_name=pdt)
- West Wide Drought Tracker: [wrcc.dri.edu/wwdt/index.php](http://wrcc.dri.edu/wwdt/index.php)
- US Bureau of Reclamation Pacific Northwest Reservoirs: [www.usbr.gov/pn/hydromet/select.html](http://www.usbr.gov/pn/hydromet/select.html)
- US Geological Survey WaterWatch: [waterwatch.usgs.gov](http://waterwatch.usgs.gov)
- USDA Natural Resources Conservation Service: [www.nrcs.usda.gov/wps/portal/nrcs/main/or/snow/](http://www.nrcs.usda.gov/wps/portal/nrcs/main/or/snow/)



[nws.pendleton@noaa.gov](mailto:nws.pendleton@noaa.gov)



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